Sept. 27, 1955 A. J. CORRACCIO ET AL 2,718,651

LIQUID DISPENSING CONTAINER

Filed April 3, 1953

FIG. 1.

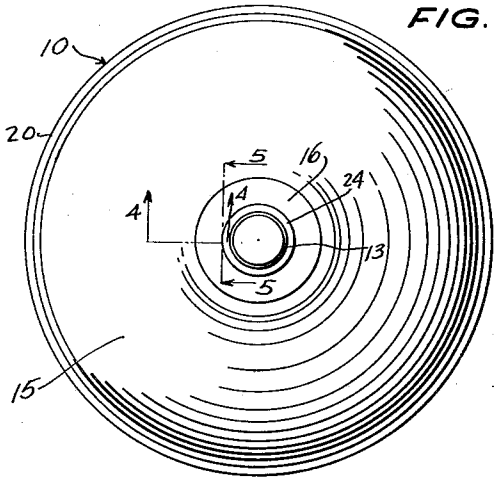


FIG. 3.

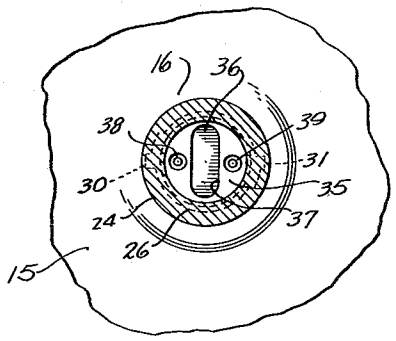


FIG. 2.

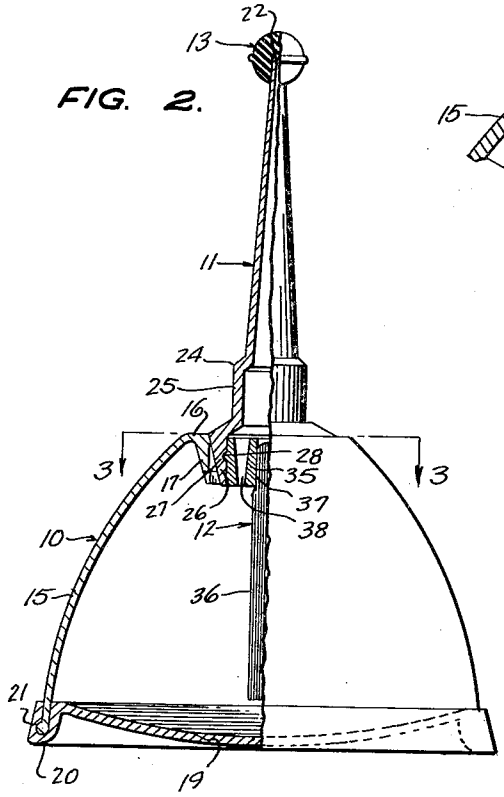


FIG. 4.

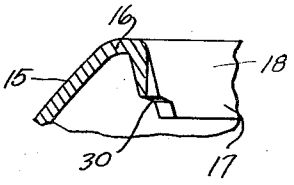


FIG. 5.

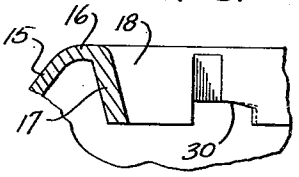
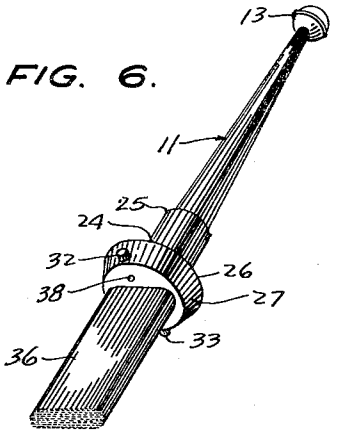


FIG. 6.



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LIQUID DISPENSING CONTAINER

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3 Claims. (Cl. 15—105)

This invention relates to liquid dispensing containers and more particularly to a container for holding, dispensing and applying a liquid, such as mucilage, stamp pad ink, or shoe polish, and especially for use in the metal working industry for applying oil as a coolant as well as a lubricant, the brush being used as an oil applicator and also for brushing metal chips from the cutter and the work piece.

It is among the objects of the invention to provide an improved liquid containing, dispensing and applying device including a spring bottom container having a neck, a spout releasably secured to the neck of the container and an applicator, such as a brush, secured to the spout and normally disposed in the container; which is effective to forcibly eject liquid from the container through the spout in response to pressure on the spring bottom of the container; in which the applicator may be made available for applying liquid to or spreading liquid on a work surface by removing the spout and associated applicator from the container, the spout serving as a handle for the applicator when the spout and applicator are removed from the container; in which the applicator can be replaced whenever necessary or desired; and which is simple and durable in construction, economical to manufacture, effective and efficient in use, and neat and attractive in appearance.

Other objects and advantages will become apparent from a consideration of the following description and the appended claims in conjunction with the accompanying drawing wherein:

Figure 1 is a top plan view of a liquid containing, dispensing and applying device illustrative of the invention;

Figure 2 is a side elevational view of the device with a portion broken away and shown in cross section to better illustrate the construction thereof;

Figure 3 is a cross sectional view on the line 3—3 of Figure 2;

Figure 4 is a fragmentary cross sectional view on an enlarged scale on the line 4—4 of Figure 1;

Figure 5 is a fragmentary cross sectional view on an enlarged scale on the line 5—5 of Figure 1; and

Figure 6 is a perspective view of an applicator and spout assembly constituting an operative component of the device.

With continued reference to the drawing, the device comprises, in general, a spring bottom container **10**, a tubular spout **11** detachably secured at one end to the container, an applicator **12** detachably secured at one end to the spout at the end of the spout secured to the container and normally disposed within the container, and a stopper **13** detachably mounted on the end of the spout remote from the applicator **12**.

The container **10** comprises a bell shaped side wall **15** having at its smaller end a neck formation **16** including an annular flange **17** extending inwardly of the smaller end of the side wall and provided interiorly thereof with a beveled surface **18** of frusto-conical shape having its

larger end at the end of the annular flange disposed outwardly of the interior of the side wall, and its smaller end at the end of the annular flange disposed inwardly of the interior of the side wall **15**. A spring bottom **19** is disposed in closing relationship to the larger end of the bell shaped side wall **15** and is marginally secured to the adjacent end edge of the side wall by a beaded over formation **20** on the bottom receiving the end portion of the side wall, the side wall being provided at this end with a terminal bead **21** which assists in retaining the beaded over portion **20** of the spring bottom on the corresponding end portion of the side wall.

The spout **11** is tubular and tapered from one end to the other, having a restricted aperture **22** in its smaller end for dispensing liquid therefrom. A cap **24** is joined to the larger end of the spout **11** and includes a cylindrical portion **25** of a diameter somewhat greater than the diameter of the larger end of the spout joined at one end to the larger end of the spout and an annular flange or boss portion **26** of larger diameter than the cylindrical portion **25** joined at one end to the end of the cylindrical portion remote from the spout **11** and having its end remote from the cylindrical portion **25** open. The annular flange portion **26** of the cap has its external surface **27** beveled to a frusto-conical shape corresponding to the frusto-conical shape of the inner surface of the neck flange **17**, and has its inner surface substantially cylindrical and provided with an annular groove **28** intermediate the length of this portion of the cap.

The neck flange **17** is provided with a pair of diametrically opposed bayonet slots **30** and **31** and the flange portion **26** of the cap **24** is provided with a pair of outwardly projecting pins **32** and **33** disposed at diametrically opposite locations therearound and engageable, one in each of the bayonet slots **30** and **31** to releasably secure the cap flange **26** in the neck flange **17** of the device.

The applicator **12** comprises a back **35** preferably formed of a somewhat elastic material, such as vulcanized rubber, of cylindrical shape received in the cap flange **26** and having a cylindrical outer surface in contact with the inner cylindrical surface of the cap flange. This back **35** has a peripheral bead engaged in the groove **28** in the inner surface of the cap flange to releasably secure the back in the cap flange, and a brush **36** comprising a plurality of bristle tufts disposed in side by side relationship to each other, is secured at one end in a centrally disposed aperture **37** in the brush back **35**, the brush **36** having a length somewhat less than the distance from the neck flange **17** of the container to the spring bottom **19** of the container, as illustrated in Figure 2.

The brush back **35** is provided with a pair of diametrically opposite apertures **38** and **39** extending transversely therethrough and which constitute liquid passages placing the interior of the cylindrical portion **25** of the cap **24** and the interior or bore of the spout **11** in communication with the interior of the container **10**.

The stopper **13** is illustrated as a substantially spherical body having a tapered recess therein receiving a portion of the spout **11** at the smaller end of the spout and closing the liquid dispensing orifice **22** in the smaller end of the spout when the device is not in use. Obviously, the stopper **13** is removed from the spout when it is desired to dispense liquid from the container **10** through the dispensing orifice **22** in the smaller end of the spout.

The device may be used for dispensing liquid from the dispensing orifice at the smaller end of the spout, in the manner indicated above, by first removing the stopper **13**, tilting the device, so that the liquid in the container **10** will pass through the liquid passages **38** and **39** into the spout and then subjecting the spring bottom **19** of the container to external pressure to force the liquid from

the container through the spout and forcibly eject the liquid through the dispensing orifice **22**. In this manner, a desired amount of liquid can be dispensed onto the surface of a work piece to be treated. If it is desired to spread the liquid on the surface of the work piece, the cap **24** is removed from the container neck **16** by first rotating the cap until the pins **32** and **33** are brought into alignment with the bayonet slots **30** and **31** and then pulling the cap flange **26** out of the neck flange **17** and the brush **36** out of the container. The brush may now be used to spread the liquid or to apply additional liquid, as may be desired, the spout **11** serving as a handle for the brush during this operation.

In order to reconnect the spout and brush assembly to the container, the brush is inserted through the opening within the inner surface of the container neck flange **17**, the inwardly tapered inner surface of this flange facilitating the re-entrance of the bristles of the brush into the container, the cap flange **26** is seated in the neck flange **17**, the pins **32** and **33** being passed inwardly of the container through the bayonet slots **30** and **31**, and the cap is then given a limited rotational movement to move the pins out of the bayonet slots through which they were passed toward the inner end of the neck flange **17** and into angularly extending portions of the bayonet slots, as illustrated in Figure 5, or to predetermined positions against the inner edge of the flange **17**. When the stopper **13** is now applied to the outer end of the spout **11**, the container is sealed to prevent the evaporation of the liquid in the container and the spilling of liquid from the container, in the event the container should be accidentally upset.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiment is, therefore, to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are, therefore, intended to be embraced therein.

What is claimed is:

1. In a liquid dispensing device, a closed container having an open neck formation on one end thereof, said neck comprising an annular flange extending into the container from said end, a tubular spout having an inner end and an outer discharge end, an annulus on said inner end removably engaging within said annular flange, bayonet slots in said annular flange, and bayonet lugs on said annulus engaged in the bayonet slots, a compressible applicator back fitting the interior of said annulus, means removably securing the applicator back in place within the annulus, an applicator secured centrally to said back and projecting from the side of the back remote from the spout, and passage means in said back at one side of said applicator, said passage means providing communication between the interior of the container and the interior of the spout.

2. In a liquid dispensing device, a closed container having a single discharge opening, an annular flange surrounding said opening, said flange having a beveled inner surface, a tubular spout having an outer discharge end and an inner end, an annulus on said inner end having a beveled outer surface engaging the beveled inner surface of said flange, means removably securing the annulus within said flange, an applicator back engaged in said annulus, means securing the back in place, an applicator secured to said back and projecting therefrom in a direction away from the spout and within the container, and passage means in said back providing communication between the interior of the container and the interior of said spout.

3. In a liquid dispensing device, a closed container having a single discharge opening, an annular flange surrounding said opening, said flange having a beveled inner surface, a tubular spout having an outer discharge end and an inner end, an annulus on said inner end having a beveled outer surface engaging the beveled inner surface of said flange, means removably securing the annulus within said flange, an applicator back engaged in said annulus, means securing the back in place, an applicator secured to said back and projecting therefrom in a direction away from the spout and within the container, and passage means in said back providing communication between the interior of the container and the interior of said spout, said applicator back being circular and compressible, and bead and groove means on and acting between said back and said annulus and securing the back removably in place.

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